G3 = 0 G4 = G5

G5 = (2-4) CH2 (opt. substd. by G14) G7 = Ph (opt. substd. by (1-3) G13)

G13 = halo

G14 = alkyl <containing 1-4 C> = alkylene <containing 1-2 C> G16 Patent location: claim 1

L47 ANSWER 4 OF 13 MARPAT COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER:

127:17671 MARPAT Full-text

TITLE:

Preparation of cyclopropanecarboxylic acid derivatives

using oxazolines as asymmetric ligands

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LANGUAGE:

Japanese

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GI

The title compds. [I; R6-R9 = H, (un) substituted alkyl, aryl, or aralkyl; R10 = AB (un) substituted alkyl, aryl] are prepared by addition of olefin R6CR8:R7CR9 (R6-R9 = same as above) with N2CHCO2R10 (R10 = same as above) in the presence of copper salt catalysts and oxazoline asym. ligands [II; X = 1-hydroxy-1cycloalkyl, 1-hydroxy-1-cycloaralkyl, etc.; R1 = H, (un) substituted aryl; R2-R5 = H, (un) substituted alkyl, aryl, or aralkyl]. II are prepared from nitrile derivs. I are useful as intermediates in the production of drugs and pesticides. 2,5-dimethyl-2,4-hexadiene was reacted with N2CHCO2Et in the presence of (F3CSO3)2Cu, PhNHNH2, and oxazoline (III) (preparation given) to give 65.5% trans-1-R-ethoxycarbony1-2-R- (2-methy1-1-propeny1)-3,3-dimethylcyclopropane 46.5% ee and 28.2% cis-1-R-ethoxycarbonyl-2-S-(2-methyl-1-propenyl)-3,3dimethylcyclopropane 37.9% ee.